

# Rahil Tadjale | Curriculum Vitae

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## Education

- PhD in Bioinformatics** — Institute of Bioinformatics, University of Georgia, Athens, GA 2015 — 2021  
(GPA – 4.0)
- Master of Science in Bioinformatics** — Department of Biological Sciences, 2013 — 2015  
Northern Illinois University, DeKalb, IL (GPA – 4.0)
- Bachelor of Technology in Biotechnology** — Kathmandu University, Dhulikhel, Kavre, Nepal 2007 — 2011  
(GPA – 3.65)

## Publications

- Tadjale R, Venkat A, Huang LC, Yeung W, Rasheed K, Edison AS, Moremen KW, Kannan N. Deep evolutionary analysis reveals the design principles of fold A glycosyltransferases.** eLife, 2020 Apr 1. 2020
- Moret N, Liu C, Gyori BM, Bachman JA, Steppi A, **Tadjale R**, Huang LC, Hug C, Berginski M, Gomez SM, Kannan N, Sorger P, NIH Understudied Kinome Consortium. **Exploring the understudied human kinome for research and therapeutic opportunities.** (bioRxiv doi: <https://doi.org/10.1101/2020.04.02.022277>) 2020
- Bento AI, **Tadjale R**, Schot C, Bosch T, Mariman R, King AA, Rohani P. **Phylodynamics of pertussis in the vaccine era: transition to re-emergence.** (medRxiv: <https://doi.org/10.1101/19012138>; In preparation) 2020
- Beattie NR, Keul ND, Hicks Sirmans TN, McDonald WE, Talmadge TM, **Tadjale R**, Kannan N, Wood ZA. **Conservation of Atypical Allosteric in C. elegans UDP-Glucose Dehydrogenase.** ACS Omega, 2019 Sep 24;4(15):16318-16329. 2019
- Florimond C, Cordonnier C, **Tadjale R**, Wel HVD, Kannan N, West CM, Blader IJ. **A Toxoplasma Prolyl Hydroxylase Mediates Oxygen Stress Responses by Regulating Translation Elongation.** mBio, 2019. 10(2) 2019
- Kwon A, Scott S, **Tadjale R**, Yeung W, Kochut KJ, Evers PA, Kannan N. **Tracing the origin and evolution of pseudokinases across the tree of life.** Science Signaling, 2019. 12 (578) 2019
- Soares V, **Tadjale R**, Garrett R, da Silva AJR, Borges RM. **Extending compound identification for molecular network using the LipidXplorer database independent method: A proof of concept using glycoalkaloids from Solanum pseudoquina A. St.-Hil.** Phytochemical Analysis, 2018. 2018
- Borges RM, **Tadjale R**, de Souza JS, de Andrade Bezerra T, Silva ELE, Herzog R, Ponce FV, Wolfender JL, Edison AS. **Dereplication of plant phenolics using a mass-spectrometry database independent method.** Phytochemical Analysis, 2018. 29(6):601-612 2018
- Rahman K, Mandalasi M, Zhao P, Sheikh MO, **Tadjale R**, Kim HW, Wel HVD, Matta K, Kannan N, Glushka JN, Wells L, West CM. **Characterization of a cytoplasmic glucosyltransferase that extends the core trisaccharide of the Toxoplasma Skp1 E3 ubiquitin ligase subunit.** Journal of Biological Chemistry, 2017. 292(45):18644-18659 2017

Hu L, **Tajale R**, Liu F, Song J, Yin Q, Zhang Y, Guo J, Yin Y. **Draft genome sequence of Talaromyces verruculosus ("Penicillium verruculosum") strain TS63-9, a fungus with great potential for industrial production of polysaccharide-degrading enzymes.** Journal of Biotechnology, 2016. 219:p.5-6 2016

**Tajale R**, Yin Y. **Glycosyltransferase Family 43 Is Also Found in Early Eukaryotes and Has Three Subfamilies in Charophycean Green Algae.** PloS One, 2015. 10(5) 2015

Ekstrom A, **Tajale R**, McGinn N, Yin Y. **PlantCAZyme: a database for plant carbohydrate-active enzymes.** Database: The Journal of Biological Databases and Curation, 2014. 2014

## Published Abstracts

**Tajale R**, Soleymani S, Priyadarshi A, Yeung W, Kochut KJ, Kannan N. **The GTXplorer portal to access, navigate and mine evolutionary relationships of fold A glycosyltransferases.** Glycobiology 30 (12), 1117-1118 2020

**Tajale R**, Huang LC, Venkat A, Yeung W, Edison AS, Moremen KW, Kannan N. **Understanding the sequence-structure-function relationships through a comprehensive evolutionary analysis of GT-A fold glycosyltransferases.** Glycobiology 29(12). 2019

Bifarin OO, Panagos C, **Tajale R**, Edison AS. **UDP-Glycosyl or Glucuronosyl transferases in Caenorhabditis elegans: Insights into Roles in Xenobiotics Detoxification.** Glycobiology 28(12). 2018

**Tajale R**, Edison AS, Kannan N. An evolutionary systems approach to investigate sequence-structure-function relationships in Glycosyltransferases. Glycobiology 26(12). 2016

Parajuli R, Shrestha N, Priyadarshani P, **Tajale R**, Adhikari S. **Production, characterization and optimization of wine from Nephrolepsis cordifolia.** 7th National Conference of Food Science & Technology. pp.283-299 ref.7 2014

## Awards

**3 Minute Thesis Competition Winner**, 2017 UGA Institute of Bioinformatics Symposium: Parsing the Microbiome, University of Georgia 2017

**Glycoscience Training Program Fellowship**, Complex Carbohydrate Research Center, University of Georgia 2016

**Sidney A. Mittler Award for Outstanding graduate student**, Department of Biological Sciences, Northern Illinois University 2015

## Conferences/ Workshops

2019 Annual Meeting of the Society for Glycobiology, Phoenix, AZ November 2-5, 2019  
- Oral and Poster talks

Trees in the Desert 2019: A workshop on ultra-large phylogenetic trees, Tucson, AZ April 12-14, 2019  
- Part of a working group to discuss current approaches and issues in building large phylogenies

RevBayes: Bayesian Inference of Phylogeny, NIMBioS Accelerated Tutorial, University of Tennessee, Knoxville	August 7-11, 2017
- Discussion group for implementation of Bayesian methods towards phylogenetic inference	
21 <sup>st</sup> International C. elegans conference, University of California, Los Angeles	June 21-25, 2017
- Poster talk	
2016 Annual Meeting of the Society for Glycobiology, New Orleans, LA	November 19-22, 2016
- Poster talk	

## Community Involvement

<b>Organizing Committee Member</b> , Institute of Bioinformatics Spring Retreat 2018	April 2018
<b>Treasurer</b> , Nepalese Student Association	October 2016 — October 2018
<b>Member</b> , Biotechnology Society of Nepal	June 2009 — present
<b>Vice President</b> , Kathmandu University Biotechnology Creatives	August 2008 — August 2009

## Experience

<b>Graduate Research Assistant</b> — Evolutionary Systems Biology Lab (Kannan) and Small Molecules in Biology (Edison) labs, University of Georgia	August 2015 — present
<b>Research Assistant</b> — Bioinformatics and Evolutionary Genomics Lab (Yin lab), Northern Illinois University	July 2014 — August 2015
<b>Teaching Assistant</b> — Northern Illinois University General Biology (BIOS 105)	Fall 2013 — Summer 2014

## Projects

<b>An evolutionary systems approach to investigate sequence-structure-function relationships in Glycosyltransferases</b> , University of Georgia (Dissertation project)	2016 — present
<b>An integrative pipeline for the processing, analysis and visualization of 1D NMR data</b> , University of Georgia	2016 — present
<b>Detailed study of the evolution of Plant CAZymes in <i>Klebsormidium flaccidum</i>, a recently sequenced charophytic green algae</b> , Northern Illinois University (Research Assistant)	2014 — 2015
<b>Prediction of 3D structure and study of functional motifs for Arabidopsis CslA protein</b> , Northern Illinois University (Research Assistant)	2013 — 2014
<b>An Integrative Evolutionary Analysis of Xylan Biosynthesis-related Glycosyltransferase Family 43</b> , Northern Illinois University (Master's thesis)	2013 — 2014

## Skills

### Computer

Programming languages — Perl, Python, MATLAB, MySQL, PHP, R, Bash scripting

Sequence alignment tools — BLAST, HMMER, MEGA, MAFFT, Muscle, T-coffee

Phylogenetic analysis tools — IQTree, RaxML, PhyML, FastTree, Mr. Bayes, RevBayes

Next Generation Sequencing assembly and analysis tools — Velvet-oases, Trinity, Tuxedo suite, STAR, DESeq

Protein structure visualization and handling tools — PyMol, Chimera, AutoDock tools

Protein structure prediction, modelling and comparison tools — I-TASSER, Modeller, Rosetta, TM-Align

### Languages

English (Proficient)

Nepali (Proficient)

Newari (Proficient)

Hindi (Competent)

## Major Courses

### Graduate School at UGA:

Statistical Inference for Bioinformatics, Algorithms for Computational Biology, Applied Genome Analysis, Glycobiology, Glycochemistry

### Graduate School at NIU:

Programming for Bioinformatics, Databases, Recombinant DNA Techniques Laboratory, Biostatistics

### Undergraduate:

Bioinformatics, Proteomics & Genomics, Protein Engineering, Quantitative Analysis, Instrumental Analysis

References can be provided upon request.